

STATE OF IOWA  
**IOWA GEOLOGICAL SURVEY**

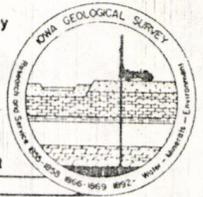
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Robert D. Ray  
Governor of Iowa

Donald L. Koch  
Director and State Geologist

Orville J Van Eck  
Associate State Geologist



April 10, 1981

Mr. David Crawford  
Environmental Protection Agency  
324 East Eleventh St.  
Kansas City, MO 64106

Dear Mr. Crawford:

This letter is in response to your request for information about the near-surface geologic materials in the vicinity of the Collis Plant in the NE  $\frac{1}{4}$  of the SE  $\frac{1}{4}$  of the NW  $\frac{1}{4}$  of Sec. 14 of T. 81 N., R. 6 E. I am enclosing copies of 4 logs in our files that were drilled at this location. It appears that a Silurian dolomite bedrock unit is present near the surface and that the dolomite is primarily overlain by silt and clay, with some sand and gravel. The Silurian dolomite is known to be a significant aquifer in east-central Iowa, and is likely to have significant secondary porosity and permeability at this site. I would anticipate that the water table in this area is at or near the altitude of the surface of the Mississippi River and Mill Creek.

I believe it is important to point out that the bedrock surface in this area has quite a bit of relief on it and that these logs may not be indicative of conditions everywhere in the immediate vicinity of the plant. The possibility of the presence of bedrock channels filled with sand and gravel should not be ruled out. If you require additional information, please let me know.

Sincerely,

Jim Munter  
Hydrogeologist

JM/lm



R00312914  
RCRA RECORDS CENTER

ILLEGIBLE DOCUMENT

JORDAN		<p>CHT. WH. 2.000; Dol. Com., Pinn. f.</p> <p>CHT. WH.; Dol. Com., BROWN SDY.; SS. LG. M.T. f. F-R, FROSTED</p> <p>CHT. WH.; Dol. Com., Pinn. f. - F-R, FROSTED</p> <p>Dol. Com., f. SDY.; SS. LG. M.T. f. F-R, FROSTED</p> <p>Dol. Com. f. S. LG. M.T. f. F-R, FROSTED</p> <p>CHT. WH. ROUN. TRIP.; Dol. Com. (SDY.); SS. LG. M.T. f.</p> <p>CHT. WH., S. MOTT.; Dol. SS. and</p>
1200		<p>Dol. Com., Pinn. f., SDY.; SS. and</p> <p>Dol. Com., SS. LG. M.T. f. F-R, FROSTED, FREE TO ENLARGEMENT</p>
1250	SI. LAW	<p>Dol. Com. f., SDY.; SS. LG. M.T. f. F-R, FROSTED</p> <p>Dol. Com., Pinn. f.; SDY.; SS. and</p> <p>CHT. WH. ROUN. TRIP.; Dol. Com. S. LG. M.T. f.</p> <p>Dol. Com., Pinn. f. CASE. T. f.; SS. and</p> <p>Dol. Com., Pinn. f.</p> <p>Dol. Com., SS. LG. M.T. f.</p> <p>Dol. Com. f. - SOMEWHAT PULV.</p> <p>Dol. Com., Pinn. f.</p> <p>Dol. Com., Pinn. f. - F-R BROWN SD. GRAYS</p> <p>Dol. Com., Pinn. f.</p> <p>Dol. Com., Pinn. f.</p> <p>Dol. Com., Pinn. f. Sili. SILTY, GRAY - P-S PINS</p> <p>Dol. Com., Pinn. f. Sili. SILTY, GRAY</p>
1300		<p>Dol. Com., LT. G. f., Sili. SDY. SILTY</p> <p>Dol. Com., T. f., Sili. SILTY, GRAY</p> <p>Dol. Com., T. f., Sili. SILTY, GLAUCONITE</p> <p>Dol. Com., T. f., Sili. SILTY, GLAUCONITE</p> <p>Dol. Com., Pinn. f. SILTY, V. GLAU.</p> <p>Dol. Com., T. f., Sili. SILTY, V. GLAU.</p> <p>Dol. Com., Pinn. f., Sili. SILTY, V. GLAU.</p>
1350		<p>Dol. Com., Pinn. f., Sili. SILTY, Sili. GLAU.</p> <p>Dol. Com., Pinn. f., Sili. SILTY, Sili. GLAU.</p> <p>Dol. Pinn. f., Sili. SILTY, Sili. GLAU.</p> <p>Dol. Com., T. f., Sili. SILTY, GLAU.</p> <p>Dol. Com., T. f., LT. G. f., Sili. SILTY, Sili. GLAU.</p> <p>Dol. Com., T. f., Pinn. f., Sili. SILTY, V. GLAU.</p>
1400	TRACED	<p>Dol. Com., SS. LG. M.T. f. T. f., V. GLAU., PYLITE, MICA.</p> <p>Dol. Com., SS. LG. M.T. f. T. f., V. GLAU., PYLITE, MICA.</p> <p>Dol., SS. and SH. LT. Com., SOFT</p> <p>Dol. Com., SDY., Sili. SILTY, V. GLAU., SS. and SH. G. and LAM.</p> <p>Dol. Com., SDY., Sili. SILTY; SS. LG. M.T. f., V. GLAU.; SH. LT. Com., SOFT</p> <p>Dol. Com., Sili. SILTY; SS. LG. M.T. f. E. V. f., V. GLAU., MICA.</p>
1450		<p>Dol. Com., Sili. SILTY; SS. LG. M.T. f. CASE; SS. and SH. LT. Com. RED</p> <p>Dol. Com. - F-R M. TO CASE. REWORKED SD. GRAYS.</p> <p>SS. LG. M.T. f. F-R, FROSTED - SOME SECONDARY ENLARGEMENT</p> <p>SS. and Sili. PINKISH CASE MURKY FREE</p> <p>SS. LG. M.T. f. CASE. T. f. F-R, FROSTED - MUCH SECONDARY ENLARGEMENT</p> <p>SS. LG. M.T. f. CASE. T. f. F-R, FREE + CEMENTED</p> <p>SS. LG. M.T. f. F-R, FROSTED - MUCH IRON STAIN AND IRON PLATES</p> <p>SS. LG. M.T. f. F-R, FROSTED</p>
1500	FRONTON	<p>SS. LG. M.T. f. CASE. T. f. F-R. CASE, FROSTED</p> <p>SS. GRAYISH WH. - SOME SECONDARY ENLARGEMENT MUCH IRON AND IRON STAIN</p> <p>SS. GRAYISH WH. CASE. T. f. F-R, FROSTED, CLEAN</p> <p>SS. GRAYISH WH. M.T. f. F-R, FROSTED, FREE, CLEAN</p> <p>SS. GRAYISH WH. V. f., SUGARY, CLEAN</p>
1550	BIVILLE	<p>SS. LG. M.T. f. F-R, FROSTED</p> <p>SS. LG. M.T. f. F-R, FROSTED</p>
1600		<p>SS. LG. M.T. f. F-R, FROSTED</p>
EAU CLAIRE ?		<p>SS. WH. f., CLEAN</p> <p>SS. and Sili. GRAY, LAM. - MUCH PYLITE. T. GLAUCONITE</p> <p>TD 1633</p>

ILLEGIBLE DOCUMENT

400 GALINA	<p>SH. GRAYISH GR. W. TO, SH. BR. CAST</p> <p>Dol. DK. Brw. M.T.f.; SH. LT. GR., Dolo. SH. DK. GR. TO GRAYISH BRW., LAM.</p> <p>SH. DK. BRW., LAM. - DEPARTURE FAUNA Dol. LT. GR., BRW. f. - CINNAMON SPECKS</p> <p>Dol. BRICE M.T.f. - TH. CIN. SPECKS; TH. CEMENT Dol. BRICE f.</p> <p>Dol. BRICE - FINE CINNAMON SPECKS Dol. BRICE M.T.f.</p>
450	
500 PINEAPPLE	<p>CHT. GRAYISH W. W. ROUGH; Dol. BRICE, LT. BRW. M.T.f.</p> <p>CHT. WH. ROUGH, TRIP; Dol. BRICE CHT. WH. TO GRAYISH W. W. ROUGH, POINTY TRIP; Dol. LT. BRW. M.T.f. CHT. LT. GR., GRAYISH W. W. ROUGH; Dol. LT. BRW. M.T.f. CHT. LT. GR. ROUGH + SH. BR. + GRAYISH W. W. ROUGH; Dol. LT. BRW. M.T.f. CHT. LT. GR., GRAYISH W. W. ROUGH; Dol. BRICE, LT. BRW. M.T.f. CHT. LT. GR., GRAYISH W. W. ROUGH + SH. BR.; Dol. LT. BRW. M.T.f.</p>
550	<p>CHT. LT. GR., GRAYISH BRW. ROUGH; Dol. BRICE, LT. BRW. M.T.f. CHT. WH. ROUGH, TRIP; Dol. LT. BRW. M.T.f. CHT. WH. TO GRAYISH W. W. ROUGH + SH. BR.; Dol. BRICE CHT. WH. ROUGH, TRIP; Dol. BRICE M.T.f.</p> <p>Dol. BRICE, LT. BRW. M.T.f.</p> <p>CHT. LT. GR., ROUGH; Dol. LT. BRW. M.T.f.</p>
600	
650 LOW 7 MCGREGOR	<p>CHT. WH. ROUGH, TRIP (TH.); Dol. LT. BRW. M.T.f. Dol. LT. BRW. M.T.f.</p> <p>Dol. BRICE, BRICE M.T.f. w/ CINNAMON SPECKS; Dol. LT. TO DK. BRW. f. SH. DK. BRW. - CIN. SPECKS</p> <p>Dol. LT. BRW. f.</p> <p>CHT. LT. GR., GRAYISH W. W. ROUGH; Dol. LT. BRW. f.</p>
700 PECATONICA	<p>Dol. LT. BRW. f.</p> <p>Dol. LT. GR. f.; SH. DK. BRW., LAM. CHT. WH. TO GRAYISH W. W. ROUGH; Dol. TRIP f. CHT. LT. GR., ROUGH; Dol. TRIP f.; LS. GR. f.</p> <p>Dol. TRIP, LT. BRW. f.; LS. GR. f. WITH CHL. RHOAMBS</p>
750 GLENWOOD S. PETER	<p>Dol. LT. BRW. f.</p> <p>Dol. BRICE, LS. GR. f. - EMBROIDERED Dol. RHOAMBS Dol. LT. BRW. f.; LS. LT. GR. f. Dol. LT. BRW. f.; SDY; LS. LT. GR. f. EMBROIDERED Dol. RHOAMBS SH. LT. GR., ALON CALC.; CHUNKY } 450. GRAYS SS. LT. GR. CASE T. f. - R. FROST; SH. LT. TO CH. GR. } SS. LT. GR. CASE T. f. - R. FROST; SH. LT. TO CH. GR. } LAM. + CHUNKY SS. BR. - FROST, FREE</p> <p>SS. BR., BECOMING FINER GRAINED</p> <p>GLENWOOD SS. LEG. CASE T. f. - R. CURV., FROST - MUCH CAVE SS. WH. M.T.f. - R. CURV., FROST, FREE</p> <p>SS. WH. CASE T. f. - R. CURV., FROST, FREE</p>
800 P. GULC. W. R. C.	<p>Dol. TRIP f. - EMBROIDERED SD. GRAINE; SH. LT. GR. CHUNKY; Dol. TRIP f., SDY. BR.; SH. LT. GR. M.T.f. - R. FROST CHT. WH. ROUGH, TRIP. + SH. BR. - TH. BR. f.; Dol. SS. BR. ad CHT. WH. ROUGH; Dol. TRIP, LT. BRW. f.; SDY; SS. BR.</p> <p>CHT. WH. SMOOTH; Dol. SS. BR.</p> <p>Dol. TRIP, LT. BRW. f. - EMBROIDERED SD. GRAINE Dol. GR. f., TRIP f. " " " "</p>
850	<p>Dol. TRIP, LT. BRW. f.; SDY; SH. LT. GR. M.T.f. - R. FROST CHT. WH. SMOOTH; Dol. TRIP, LT. BRW. f.; SDY; SS. BR.</p> <p>CHT. WH. SMOOTH (TH.); Dol. GR., TRIP f., SDY.</p>
	<p>Dol. GR., TRIP, BRW. f. - EMBROIDERED SD. GRAINE Dol. BRICE, SH. LT. GR. M.T.f. - R. FROST Dol. BRICE - FINE CINNAMON SPECKS</p>



ILLEGIBLE DOCUMENT

STATE	10W	CLINTON (CLINTON)
NE SE NW		COLLIS CORP. OF CLINTON
SEC.	1A	
TWP.	81N	COMMENCED
RGE.	6E	July 17 - Nov. 23, 1962
		COMPLETED
		VARNER WELL CO.
		CASING RECORD
		90' OF 18" CSG. 0-40'
		404' OF 12" CSG 0-409'
		1127' OF 10" LINER 719.3-832'
		LOGGED
		MARCH 1963
		BY NORTHUP
		REMARKS
		sp. cap 5.4 gpm/ft.
		SWL 146'

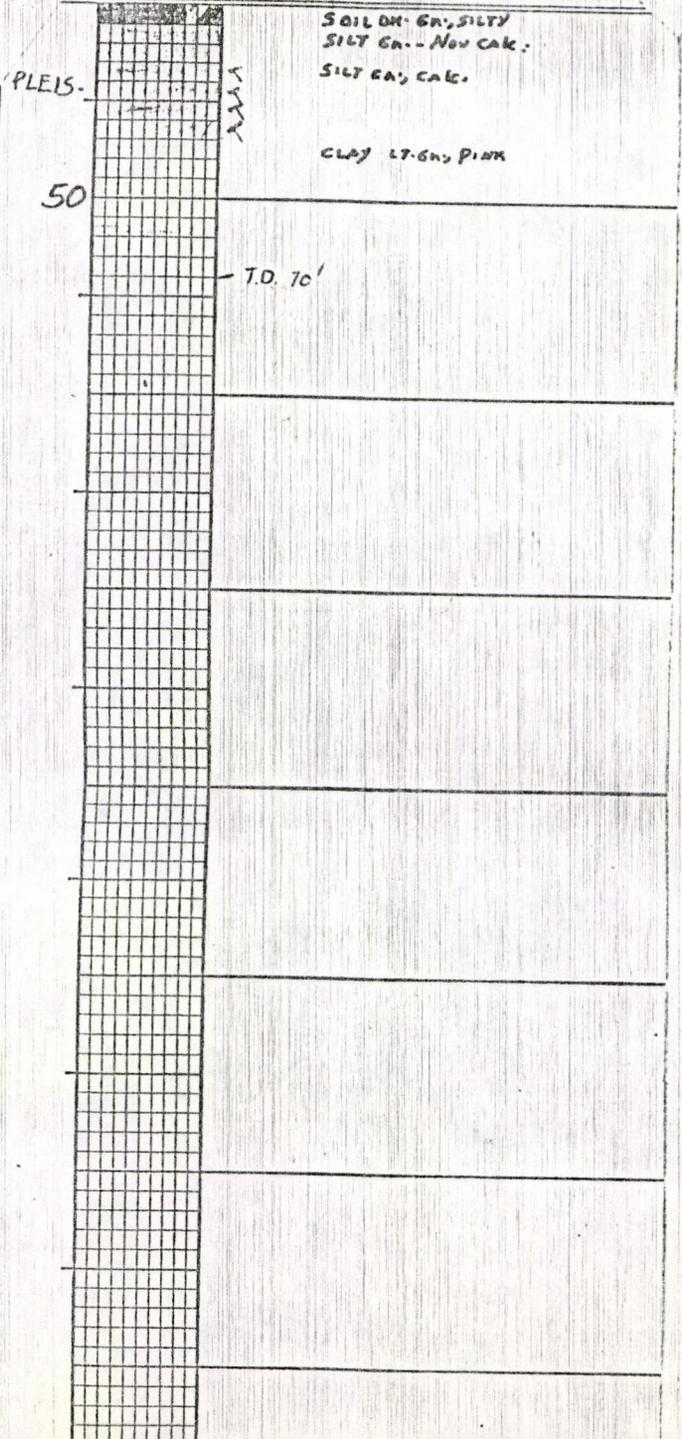
2 CAPIES  
 NO OFFICIAL PUMPING TEST  
 PWL 211  
 4-9-63 Yield 350 gpm

50	DoI. Bf. f.
100	DoI. Bf. f. - Somewhat Pulv. DoI. Bf. f., VUGGY
150	DoI. Bf. f. - Tan f. DoI. Bf. f. DoI. Bf. f., Pink f. DoI. an; Clay Lt. Gn., sli. UNCT.
200	DoI. Bf. f.; clay ca (GREENICE BILL) DoI. Bf. f. - Tan f. DoI. Bf. f. - Tan f. DoI. cm. M. T. f. - Few Pieces Bf. f. DoI. cm. M. T. f.
250	CHT. Wt. Roum, THIP. + Smooth; DoI. cm. M. T. f.
300	CHT. Wt. Smooth; DoI. cm. f. - Tan Lt. Gn. f.; ANG. DoI. cm. f.; SH. Lt. Gray to Gr. Dol., CHUNKY
350	DoI. Gn. f., ANG, MOT.; SH. aa
400	DoI. Lt. G. M. T. f., ANG, MOT.; SH. aa
450	SH. GRAYISH GRW., Dolo., CHUNKY
500	DoI. Gn. f., ANG; SH. GRAYISH GRW., Dolo., ANG.
550	SH. aa
600	DoI. Gn. f. - ANG; SH. aa
650	SH. GRAYISH GRW., Dolo., Lm + CHUNKY
700	DoI. Gn. f., ANG; SH. GRAYISH GRW., Dolo., CHUNKY
750	DoI. an; SH GRAYISH GRW. HANDED + COARSE, Dolo.
800	SH. GRAYISH GRW. WTB, sli. Brw. CMT

595  
 165  
 ---  
 430

ILLEGIBLE DOCUMENT

STATE IOWA CLINTON (CLINTON)  
SE NW COLLIS OP CLINTON 3  
SEC. 19  
TWP. 8N RGE. 6E COMMENCED 1956 COMPLETED  
LAYNE-WESTERN  
CASING RECORD  
LOGGED SEPT. 18, 1956 BY NORTHUP  
REMARKS  
EL 595  
TD 69'



STATE IOWA  
NE, SE, NW  
SEC. 14  
TWP. 81N RGE. 6E

CLINTON (CLINTON)  
COLLIS OF CLINTON #2

COMMENCED 1955 OR 1956 COMPLETED

LAYNE-WESTERN  
CASING RECORD

LOGGED SEPT. 10, 1956 BY NORTUP

REMARKS  
TD 00

EL 595'  
TD 17'

EJS-10

Soil Dr. Co., SILTY  
SILT LR. Co., Non Calc.  
Dol. BS & S; SILTY ss

L-W wells 1, 2, 3  
not known to  
current personnel

STATE IOWA  
NE, SE, NW  
SEC. 14  
TWP. 81N RGE. 6E

CLINTON (CLINTON)  
COLLIS OF CLINTON #1

COMMENCED 1955 OR 1956 COMPLETED

LAYNE-WESTERN  
CASING RECORD

LOGGED SEPT. 10, 1956 BY NORTUP

REMARKS

EL 595'  
TD 38 1/2'

EJS-10

Soil Dr. Co., SILTY  
SILT LR. Co., Non Calc.  
SILT Brown Cr., Calc.  
SILT ss; gravel &  
SILT ss, calc.; conch. f.  
CLAY Co., calc. - GASTROPOD FRAG.

ILLEGIBLE  
DOCUMENT